PTO-1449 (Modified)

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

U.S. PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
			· ,			-

. FOREIGN PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION TES/NO	
EL	EP 0 628 806	4/1994	European				
age	WO 00/59206	10/2000	PCT				
Cer	WO 02/17030	2/2002	PCT				

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

ar	"A New Mask Evaluation Tool, the Microlithography Simulation Microscope Aerial Image Measurement System", Budd, et al., SPIE Vol. 2197, 1994, pp.530-540
	"Characterization of Lithographic System Performance Through Direct Aerial Image Measurements", C.H. Fields, SRC/SEMATECH, 1996 (96-MC-500)
	"Aerial Image Measurements on a Commercial Stepper", Fields, et al., SPIE Vol. 2197, 1994, pp.585-595
	"A Novel High-Resolution Large-Field Scan-and-Repeat Projection Lithography System", K. Jain, SPIE Vol. 1463 Optical/Laser Microlithography IV, 1991, pp.666-677
	"Direct Aerial Image Measurements to Evaluate the Performance of an Extreme Ultraviolet Projection Lithography System", Fields, et al., J. Vac. Sci. Technol. B, Vol. 14, No. 6, Microelectronics and Nanometer Structures, Nov/Dec 1996, pp.4000-4003
	"In Situ Measurement of an Image During Lithographic Exposure", Brunner et al., IEEE Electron Device Letters, Vol. EDL-6, No.7, July 1985, pp.329-331
	"Improving Photomask Linewidth Measurement Accuracy via Emulated Stepper Aerial Image Measurement", J. Potzick, SPIE Vol. 2322, Photomask Technology and Management, 1994, pp.353-359
	"Pattern Shape Analysis Tool for Quantitative Estimate of Photomask and Process", Yonekura, et al., Proceedings of SPIE Vol. 4409, Photomask and Next-Generation Lithography Mask Technology VIII, 2001, pp.204-211
	"Meeting the Challenge of Advanced Lithography Reticle Inspection", Zurbrick et al., SPIE Vol. 2322, Photomask-Technology and Management, 1994, pp.7-15
	"In Situ Resolution and Overlay Measurement on a Stepper", Brunner et al., SPIE Vol. 565, Micron and Submicron Integrated Circuit Metrology, 1985, pp.6-13

XAMINER	4 dhin	

DATE CONSIDERED

18/04

EXAMINER: Initial citation if reference was considered. Draw line through citation if not in conformance to MPEP 609 and not considered. Include copy of this form with next communication to applicant.

Sheet 2 of 3 SERIAL NUMBER ATTY. DOCKET NO. 10/677,563 213.003-US U.S. DEPARTMENT APPLICANT(S) PATENT AND TRADEMA Ye et al. FILING DATE GROUP ART UNIT

October 2, 2003

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

DOCUMENT

NUMBER

PTO-1449

EXAMINER

INITIALS

U	.S. PATENT DOCUMENTS	×		
DATE	NAME	CLASS	SUB CLASS	FILING DATE

FOREIGN PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TES/NO	

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)
Cul	"Application of the Aerial Image Measurement System (AIMS™) to the Analysis of Binary Mask Imaging and Resolution Enhancement Techniques", Martino et al., SPIE Vol. 2197, 1994, pp.573-584
	"Optical Limitations to Cell Size Reduction in IT-CCD Image Sensors", Satoh et al., IEEE, Transactions on Electron Devices, Vol. 44, No. 10, Oct. 1997, pp.1599-1603
	"Direct Aerial Image Monitoring for Extreme Ultraviolet Lithography Systems", C.H. Fields, Ph.D. Dissertation Thesis, University of California, Berkeley, Spring 1997
	"Extraordinary optical transmission through sub-wavelength hole arrays", Ebbesen et al., Nature, Vol. 391, Feb. 1998, pp., 1994, pp.667-669
	"Control of Optical Transmission Through Metals Perforated with Subwavelength Hole Arrays", Kim et al., Optics Letters, Vol. 24, No. 4, Feb. 1999, pp.256-258
	"Image Monitor for Markle-Dyson Optics", Grenville et al., Journal of Vacuum Science Technology B, Vol. 6, No. 11, Nov/Dec 1993, pp.2700-2704
	"A General Simulator for VLSI Lithography and Etching Processes: Part I Application to Projection Lithography", Oldham et al., IEEE Transactions on Electron Devices, Vol. ED-26, No. 4, April 1979, pp.717-722
	"High-Resolution Lithography with Projection Printing", H. Moritz, IEEE Transactions on Electron Devices, Vol. ED-26, No. 4, April 1979, pp.705-710
	"Contrast Studies in High-Performance Projection Optics", Oldham et al., IEEE Transactions on Electron Devices, Vol. ED-30, No. 11, Nov. 1983, pp.1474-1479
	"High Resolution, Low-Voltage Probes from a Field Emission Source Close to the Target Plane", McCord and Pease, Journal of Vacuum Science Technology B, Vol. 1, No. 3, Jan/Feb 1985, pp.198-201
1	"Near-Field Optics: Microscopy, Spectroscopy, and Surface Modification Beyond the Diffraction Limit", Betzig and Trautman, Science, Vol. 257, July 1992, pp.189-195

EXAMINER	ha	way	* Fund	Von	DATE CONSIDERED	4	8	01	1
		<del></del>		-,			I—- 1		1

EXAMINER: Initial citation if reference was considered. Draw line through citation if not in conformance to MPEP 609 and not considered. Include copy of this form with next communication to applicant.

Sheet 3 of 3 SERIAL NUMBER OCKET NO. PTO-1449 (Modified) 10/677,563 213.003-US U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE Ye et al. FILING DATE GROUP ART UNIT

October 2, 2003

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE

FOREIGN PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRUST.	

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

Oa	"Direct Aerial Image Measurement as a Method of Testing High Numerical Aperture Microlithographic Lenses",
Eff.	Partio et at., Journal of Vacuum Science Technology B, Vol. 6, No. 11, Nov/Dec 1993, pp.2586-2691
	"Moire Technique for Overlay Metrology", Brunner and Smith, SPIE Integrated Circuit Metrology II, Vol. 480, 1984, pp164-170
	"Growth of Low-Defect Density In 0.25Ga0.75As on GaAs by Molecular Beam Epitaxy", Pickrell et al., Journal of Vacuum Science Technology B, Vol. 6, No. 18, Nov/Dec 2000, pp.2611-2614
	"Super-Resolved Surface Reconstruction From Multiple Images", Cheeseman et al., Technical Report FIA-94-12, NASA Ames Research Center, Dec. 1994
	"Monolithic Detector Array Comprised of >1000 Aerial Image Sensing Elements", Kunz et al., To be published in the SPIE Proceeding of the Microlithography, 2003
	"Initial Experiments on Direct Aerial Image Measurements in the Extreme Ultraviolet", Fields et al., Proc. OSA Trends in Optics and Photonics, Extreme Ultraviolet Lithography, Boston, MA, 1996
	"Autonomous On-Wafer Sensors for Process Modeling, Diagnosis, and Control", Freed et al., IEEE Transactions on Semiconductor Manufacturing, Vol. 14, No. 3, Aug. 2001, pp.255-264
	"Smart Dummy Wafers", Freed and Fisher, University of California, Berkeley, Presentation, May 1998
	"A Multi-Blanker for Parallel Electron Beam Lithography", G. Winograd, Ph.D. Dissertation, Stanford University, May, 2001
	"Wafer-Mounted Sensor Arrays for Plasma Etch Processes", M. Freed, Ph.D. Dissertation, University of California, Berkeley, Fall 2001

EXAMINER	lh	M.,	. 1	Garner		DATE CONSIDERED	04
----------	----	-----	-----	--------	--	-----------------	----

EXAMINER: Initial citation if reference was considered. Draw line through citation if not in conformance to MPEP 609 and not considered. Include copy of this form with next communication to applicant.

OFF COLUMN TO THE TRANSFER TRA

PTO-1449 (Modified)

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO. SERIAL NUMBER
213.003-US 10/677,563
APPLICANT(S)

AND TRADEMARK OFFICE
Y et al.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

6,671,660

12/2003

FILING DATE GROUP ART UNIT
October 2, 2003

Sheet 1 of 1

FILING **EXAMINER DOCUMENT** DATE NAME SUB DATE INITIALS NUMBER **CLASS** CLASS 2002/0161557 Freed 10/2002 Mundt 2002/0165678 11/2002 Poolla et al. 2002/0177916 11/2002 2002/0177917 11/2002 Polla et al. 2002/0193957 12/2002 Freed 2003/0020917 1/2003 Mundt et al. 2003/0222049 12/2003 Mundt 6,160,621 12.2000 Perry et al. 8/2002 Mundt et al. 6,432,729 6/2003 Mundt 6,582,619 11/2003 Mundt et al. 6,642,063

**U.S. PATENT DOCUMENTS** 

FOREIGN PATENT DOCUMENTS

Freed

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION YES/NO

					<u>.                                    </u>		
EXAMINER	Cawna	Cay mond	DATE CONSIDERED	4	8	104	
EXAMINER: I	Initial citation if referen	ce was considered. Drawith next communicatio	w line through citation if not n to applicant.	in conform	t ance t	MPEP 609 an	d not

U.S. DEPARTMENT OF COMMERCE

ATTY. DOCKET NO. 213.003-US SERIAL NUMBER 10/677,563

Sheet 1 of 5

PATENT AND TRADEMARK OFFICE

Ye et al.

FILING DATE

APPLICANT(S)

GROUP ART UNIT

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

October 2, 2003

EXAMINER INITIALS	document number	DATE	NAME	CLASS	SUB CLASS	FILING DATE
ar	4,585,342	4/1986	Lin et al.			
	4,701,606	10/1987	Tanimoto et al.			
	4,929,083	5/1990	Brunner			
	5,202,748	4/1993	MacDonald et al.			
	5,481,624	1/1996	Kamon			
	5,629,772	5/1997	Ausschnitt			
	5,631,731	5/1997	Sogard			
	5,795,688	8/1998	Burdorf et al.			
	5,828,455	10/1998	Smith et al.			
	5,888,675	3/1999	Moore et al.			
	5,898,479	4/1999	Hubbard et al.			-
	5,969,639	10/1999	Lauf et al.			
	5,978,085	11/1999	Smith et al.			
	6,268,093	7/2001	Kenan et al.			
	6,335,220	1/2002	Shioyama et al.			

FOREIGN PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	LATION 1/NO
		٠	_			

 OTHER DOCUMENTS	(Including Author,	Title, Date,	Pertinent Pa	ages, Etc	:.)

EXAMINER

DATE CONSIDERED

EXAMINER: Initial citation if reference was considered. Draw line through citation if not in conformance to MPEP 609 and not considered. Include copy of this form with next communication to applicant.

PADEMAR (PADEMAR)

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

213.003-US APPLICANT(S)

ATTY. DOCKET NO.

SERIAL NUMBER 10/677,563

Sheet 2 of 5

Ye et al.

FILING DATE

GROUP ART UNIT

October 2, 2003

	U.S. PATENT DOCUMENTS										
EXAMINER INITIALS	Document Number					FILING DATE					
gel	6,356,345	3/2002	McArthur et al.								
1	2001/0055415	12/2001	Nozaki								
	2002/0003216	1/2002	Kida et al.								
	2002/0005947	1/2002	Golberg et al.								
	2002/0036775	3/2002	Wolleschensky et al.								
	2002/0041377	4/2002	Hagiwara et al.								
	2002/0062206	5/2002	Liebchen		ļ 						
	2002/0067478	6/2002	Karpol et al.								
	2002/0070355	6/2002	Ota								
	5,597,868	1/1997	Kunz								
	5,914,774	6/1999	Ota								
	5,891,959	4/1999	Kunz								
	5,973,316	10/1999	Ebbesen et al.								
V	6,002,740	12/1999	Cerrina et al.								

FOREIGN PATENT DOCUMENTS TRANSLATION TES/NO SUB EXAMINER DOCUMENT COUNTRY CLASS CLASS NUMBER DATE INITIALS

	OTHER	DOCUMENTS	(Including	Author,	Title,	Date,	Pertinent	Pages,	Etc.)
			<del></del>						<del></del>
1									

EXAMINER

DATE CONSIDERED

EXAMINER: Initial citation if reference was considered. Draw line through citation if not in conformance to MPEP 609 and not considered. Include copy of this form with next communication

OIL S DOOR SHIP

Sheet 3 of 5

PTO-1449 (Modified) & TRADE

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

SERIAL NUMBER

213.003-US

APPLICANT(S)

Ye et al.

FILING DATE

October 2, 2003

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
an	6,040,936	3/2000	Kim et al.			
	6,052,238	4/2000	Ebbesen et al.			,
	6,236,033	5/2001	Ebbesen et al.			
	6,240,219	5/2001	Gregory			
	6,278,101	8/2001	Puyot			
1	6,285,020	9/2001	Kim et al.			
	6,360,012	3/2002	Kreuzer			
	6,362,907	3/2003	Stone et al.			
	6,368,763	4/2002	Drksen et al.			
	6,515,272	2/2003	Fontaine et al.			
	2002/0105629	8/2002	Sandstrom et al.			
	2002/0122187	9/2002	Bruce et al.			
	2002/0134912	9/2002	Veneklasen et al.			
	2002/0145717	10/2002	Baselmans et al.			

FOREIGN PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	LATION E/NO

	OTHER DOCUMENTS	(Including Aut	hor, Title,	Date,	Pertinent	Pages,	Etc.)
		•					
ļ							
1							

EXAMINER

& Kuxmord

DATE CONSIDERED

4/8/04

EXAMINER: Initial citation if reference was considered. Draw line through citation if not in conformance to MPEP 609 and not considered. Include copy of this form with next communication to applicant.

JAN 2 0 2004

Sheet 4 of 5 STTY. DOCKET NO. SERIAL NUMBER PTO-1449 (Modified) PADEMAS 10/677,563 213.003-US U.S. DEPARTMENT OF COMMERCE APPLICANT(S) PATENT AND TRADEMARK OFFICE Ye et al. FILING DATE GROUP ART UNIT INFORMATION DISCLOSURE STATEMENT BY APPLICANT October 2, 2003

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
Ol .	2002/0167651	11/2002	Boonman et al.			
	2002/0172876	11/2002	Baselmans			
	2003/0001107	1/2003	Kroon et al.			
	2003/0017805	1/2003	Yeung et al.			
	2003/0027057	2/2003	Schroeder et al.			
	2003/0042433	3/2003	Kamijo			
	5,235,400	8/1993	Terasawa et al.			
	5,316,896	5/1994	Fukuda et al.			
	5,491,724	2/1996	Altes			
	5,638,211	6/1997	Shiraishi			
-	5,700,601	12/1997	Hasegawa et al.			
	5,866,935	2/1999	Sogard			
/	6,005,682	12/1999	Wu et al.			
	6,329,112	12/2001	Fukuda et al.			

DOCUMENT SUB COUNTRY CLASS CLASS DATE NUMBER

OTHER	DOCUMENTS	(Including	Author,	Title,	Date,	Pertinent	Pages,	Etc.)	
		<del></del>							
 		<del></del> ;							

FOREIGN PATENT DOCUMENTS

EXAMINER

EXAMINER

INITIALS

DATE CONSIDERED

EXAMINER: Initial citation if reference was considered. Draw line through citation if not in conformance to MPEP 609 and not considered. Include copy of this form with next communication to applicant.

PTO-1449 (Modified) ADEMARY 213.003-US SERIAL NUMBER

213.003-US 10/677,563

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

October 2, 2003

U.S. PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
GIA	6,451,490	9/2002	Advocate et al.			
1	6,534,798	3/2003	Scherer et al.			
	2002 0192598	12/2002	Hirayanagi			
	2003 0027366	2/2003	Dulman et al.			
	2003 0047694	3/2003	Van Der Laan			
	RE 36,509	1/2000	Shigihara			
	6,459,823	10/2002	Altunbasak et al.			
	5,594,328	1/1997	Lukaszek			
	5,746,513	5/1998	Renken			
	6,542,835	4/2003	Mundt			
	5,348,837	9/1994	Fukuda et al.			
	5,418,598	5/1995	Fukuda et al.			
	5,595,857	1/1997	Fukuda et al.			
N.	5,895,741	4/1999	Hasegara et al.			

FOREIGN PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRUNSLATION TES/NO	
•							

	OTHER	DOCUMENTS	(Including	Author,	Title,	Date,	Pertinent	Pages,	Etc.)	
T									-	
1										
			•							
1										1
L							_			

EXAMINER GANTUA GUARNA

DATE CONSIDERED

4/8/04

EXAMINER: Initial citation of reference was considered. Draw line through citation if not in conformance to MPEP 609 and not considered. Include copy of this form with next communication to applicant.

٠...